DOCUMENT RESUME

ED 137 129 SE 022 395

TITLE Curriculum Report, Volume 6, Number 3, March 1977.
INSTITUTION National Association of Secondary School Principals, Reston, Va.
PUB DATE Mar 77
NOTE 13p.; For Vol. 3, No. 1, see ED 100 177; For Vol. 3, No. 6, see ED 093 773; Not available in hard copy due to copyright restrictions
AVAILABLE FROM National Association of Secondary School Principals, 1904 Association Drive, Reston, Virginia 22091 ($0.50 single copy; 2-10 copies $0.30 ea.; Payment must accompany order of $10.00 or less)

EDRS PRICE MF-$0.83 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS *Curriculum; *Elementary Secondary Education; *Environmental Education; Field Studies; *Instructional Materials; Objectives; Outdoor Education; *Program Descriptions

ABSTRACT

This issue of Curriculum Report is concerned with environmental education. Presented are: (1) primary purposes and premises of environmental education; (2) examples of secondary school environmental education programs; (3) the use of outdoor laboratories and nature centers; (4) environmental education programs for students with special needs; and (5) materials available from the ERIC system and other sources. (RH)

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Research
Ideas
Practice

CURRICULUM Report

FROM THE CURRICULUM SERVICE CENTER / NASSP

Vol. 6, No. 3 March 1977

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Clearing the air on . . . .

ENVIRONMENTAL EDUCATION

A Problem Too Big To Ignore

In the 85 years since John Muir led the charter members of his fledgling Sierra Club on brisk nature hikes through the mountains of California, popular interest in the environment has grown dramatically. In those early days, the environment was the concern of only a handful of farsighted individuals: Muir, of course, John Burroughs, Ernest Thompson Seton, Liberty Hyde Bailey, and later, Aldo Leopold, to name a few of the better-known members of that determined band, who in their time were often identified as trouble-makers.

Today, in contrast, environmental education--called by many different names such as nature study and conservation education--has emerged as a viable, interdisciplinary, all-level field of study and action. (The discussion in these pages deals mainly with school-based and other programs for young people, but the all-level nature of the current concern for the environment may be the most socially significant feature of contemporary life.) To many high schoolers as well as others it may seem that current concern with the problems of environmental deterioration came into existence on that first Earth Day, observed on April 22, 1970. Not so, however.

That spring day seven years ago was, actually, the capping of a growing environmental movement, which had been gathering strength for some time. The cause of environmentalism had been pleaded eloquently as early as 1962 by Rachel Carson in her controversial Silent Spring, which was followed a year later by Stewart Udall's Quiet Crisis. Carson's book detailed the horrors of pesticide poisoning, while Udall's outlined the chronic patterns of abuse that had reduced the natural beauties of this nation to a fragile few.

Additional impetus for concern about the environment came from contemporary, prominent, and everywhere visible signs of pollution such as dirty water, smog, oil spills, and other forms of atmospheric fouling. Even putting man and machine on the moon, that finest feather in man's cap, contributed to this mounting concern, in numerous ways. For one thing, we were steadily reminded of the worry of the scientific community that we might transfer to the moon some materials which, while benign to us, might not be to that celestial body, and the reverse. There is much we do not know about our world and the universe and, in consequence, we ought to apply what we do know--and what we do not know--more respectfully to our own "spaceship."

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It must be clear from considerations such as these that to have impact a program of environmental education must be wide-ranging in scope and free to examine all aspects of the man-world interaction. A forceful definition of this comprehensive responsibility is the one found in an Ohio Department of Education pamphlet entitled, Environmental Education: Why, What, and How:

> The world of nature from which we derive our life's energy and resources and the world of our own creation are the dimensions involved in environmental education. Environmental education is directed at modifying our concepts, attitudes, and actions toward the earth on which we live.

In discussing the aims of environmental education in the course of reporting on one of his earlier studies, Robert Roth, a coauthor of this CR, wrote:

> Specifically, environmental education is concerned with developing a citizenry that is:
>
> - o Knowledgeable about biophysical and sociocultural environments of which man is a part;
> - o Aware of environmental problems and management alternatives that can be employed in solving these problems; and
> - o Motivated to act responsibly in developing diverse environments that are optimum for living a quality life.

In other words, the ultimate objective of an environmental education program is to improve the over-all quality of life by bringing the individual's concept of the "good life" in line with sound environmental principles that are consistent with the physical constraints of earth's resources; that is, "maximizing life styles on a planet with finite carrying capacity."

To develop a citizenry that makes its decisions based on its environmental literacy, educational programs utilize information, generalizations, and techniques from just about all of the academic disciplines found in school and college curricula, especially the social and behavioral sciences, the biological and physical sciences, the arts and humanities, modern technology, and, of course,

> ecology, "the branch of biology which treats of the relations between organisms and their environment; the branch of sociology concerned with the spacing of people and of institutions and their resulting interdependency."

From the interplay of these disciplines come four generalizations that are basic to the design of all worthwhile environmental education programs, and which guide the thought and action of the environmentally literate citizen. As phrased by Roth, they read:

- ✓ Living things are interdependent with one another and with all other elements of their environment;
- ✓ Relationships between man and environment are mediated by culture;

- ✓ Management of resources to meet the needs of successive generations demands long-range planning; and
- ✓ Organisms and environment are in constant change.

Fundamental to these four generalizations and their application is the premise that man is a part of the environment, not apart from it!

Not All in 12 Pages

In planning this discussion of environmental education programs and practices it was decided to limit it almost entirely to organized instructional programs that are school-based or closely school-related, because spatial constraints require some selection and, considering the main readership of the CR, this curriculum orientation of the discussion seemed most widely useful.

But we thought it important, and only fair, to be open about this basis of selection because, for one thing, most readers are as aware as the writers of the many environmental improvement projects which are sponsored by numerous community, industrial, and labor agencies that make substantial and noteworthy contributions to better man-world relationships. While many such programs concentrate on getting something done or undone rather than on instruction, they do contribute to the development of that environmentally literate citizenry previously mentioned, and, hence, merit recognition and encouragement.

Again, students in most of the schools to which this CR will go also contribute many hours of intense and thoughtful service in support of numerous short- and long-term projects to ameliorate or remove local environmental problems. Some of these, of course, are of the "field experience" sort related to a course or unit in environmental education, but more often they are a free-will offering of youthful energy and concern to aid their communities, with service and results emphasized more than learning. Promising and valuable signs of the development of that literate citizenry, though, are in no way to be belittled or discouraged.

Fortunately, no clear or impenetrable boundaries need separate community activities in these two large categories, or any others, from school curricular enterprises, for each can nourish the others. (These types of programs ought to be as "interdisciplinary" in their way as school-based environmental studies.) Hence, we do not want to seem to over-emphasize the categorization, but mention it only to make it evident that there is more to the current scene than can be shown in these pages.

EE Inside and Out

Secondary school environmental education programs can be said to operate in one or, more often, two major instructional settings: (1) a school classroom, as with most other curriculum areas; and (2) an outdoor field laboratory of some kind. But this cliché-like remark conceals the variety of patterns and relationships schools are using to help their students modify their "concepts, attitudes, and actions toward the earth on which we live." A few excerpts from some actual programs will suggest the nature and range of this varied patterning, but before looking at those, some notes about the classroom/outdoor dichotomy are called for.

To have a well-rounded program there must be a substantial segment in which the student obtains or enlarges his academic/technical/social understanding of ecological problems, issues, and processes; in other words, a segment that

- o Provides knowledge in the form of raw factual data;
- o Instills an awareness of environmental issues and the relevance of the student's education to these issues; and
- o Motivates the student to channel his education into responsible social action.

To complement this classroom or "theoretical" segment there needs to be a related series of thoroughly practical experiences that will provide students with

- o Opportunities of the hands-on sort to relate their classroom studies to the substantial realities of those studies;
- o Opportunities to apply what has been learned in the classroom in the making of constructive changes in their own immediate environment, even though those changes may be only small ones;
- o Opportunities to get some experience with the realities of decision making in contrast to school-administered problem-solving, which the resolution of environmental issues regularly demands;
- o Opportunities to become involved in some actual environmental issues--e.g., political, social, and aesthetic--which rarely can be brought to life in a classroom or school laboratory; and
- o Opportunities to propose and check out some of their own hypotheses about environmental influences and processes.

What the balance is to be between these two major segments, the actual content of each, the nature of the interplay between these two types of learning activities, where and how the "thoroughly practical experiences" can be provided are questions that, in the end, must be resolved by the individual school and its community, for there is no one set of best answers but many educationally valuable combinations. What we emphasize here, then, is doing whatever local conditions permit to develop an environmental education program that really does integrate "theoretical" studies with "thoroughly practical experiences."

This comment about local decision making brings us back to the earlier remark about the variety of patterns schools are using in designing and operating their EE programs. Here are a few instances that illustrate this variety.

In a letter about environmental education at Windsor, Va., High School, George L. Hall, the principal, wrote:

> It's an eight-week course incorporated within our regular biology classes, which are strictly elective (112 students this year)....Most of the study is community-centered. We are a rural area and transportation is a problem, so we confine ourselves to our own local environment. The community, students, and administration are enthusiastic about the program and give the teacher complete freedom to conduct his program, which is a necessity. We follow the state guide and find it to be excellent.

The curriculum plan at Maple Hill High School, Castleton-on Hudson, N.Y., where Richard E. Bamberger is principal, is different from our first example in several ways. Here are selections from a memo about TERRA (The Earth's Rehabilitation and Restoration Activists), the course title selected by the students.

> The course will be completely multi-disciplinary in nature, combining the disciplines of the science, social studies, health, and English departments of the high school....The accomplishments of this course, which designates 40 percent of class time for community involvement projects, do in fact lead to a far greater commitment of time on the part of the individual....Both individual student projects and full class projects have entailed hours of organization, classroom teaching, and individual readings. Naturally, all projects have not been totally successful--in fact, many have failed. The failures have provided opportunities for self-criticism and reevaluation of goals and objectives...as educationally significant as the process of successfully attaining objectives.

The curriculum of the Ipswich (Mass.) High School includes a half-dozen elective courses with an environmental studies emphasis: namely, environmental awareness, environmental education, biology, earth science, oceanography, and economics. But the school has been able to extend and integrate the opportunities these courses provide through its Ipswich Environmental and Civic Action Project (IECAP), which has been supported in part by a Title III EASA grant.

IECAP is not another school course, and it does not compete with existing courses. Rather, through its own carefully spelled-out set of objectives and activities it serves those existing courses, and in addition opens up community service possibilities to other students. The range of concern of IECAP is evident in a memo prepared at the outset by Thomas D. Metcalf, the project's director, that says in part (emphasis added):

> Protection of the natural environment is closely tied to economic and political issues. Ipswich proposes to give its high school students opportunities to understand and actively deal with issues of nature, economics, and politics in their own community...opportunities for study within and outside the classroom, with a host of work activities in consort with local conservation, civic, historical, political, and fraternal groups.

A portion of one of IECAP's 10 very carefully articulated objectives shows the nature of the project's relationship to on-going courses and underlines its announced focus on local community life. Toward the end of its first year, 1975-76, Metcalf took each of the objectives and reported what, in fact, had or would be done to realize that objective during that school year.

> Objective #7. Given copies of existing and proposed environmental legislation, students (1) will determine the present and future impact on both the environment and the inhabitants, and (2) will participate directly in civic meetings and or/action groups.
>
> Student Population. All students in the environmental and economics classes will participate in the first portion of the objective. They and those electing independent study will be given the opportunity to participate in the more in-depth (second) portion of the objective.
>
> * * *
>
> Activities to Date (toward end of IECAP's first year).
>
> 1. Students are studying the present legislation on disposal of trash in Ipswich to see if it is the only way or if there is a better way.

2. With the need for recreation areas and building sites, students have been studying Ipswich's Wetlands Act.

3. Some students have been studying the idea of building a yacht basin on the Ipswich River.

Future Activities.

1. Study the impact of Ipswich's Dog-Leash Law.

2. Study the impact of the water ban in the summer.

3. Observe the functioning of the Zoning Board and Conservation Commission and then write a report based on these observations.

Metcalf estimated that at least 45 percent of the high school's nearly 700 students would, by the end of the school year, either have been working directly or involved in some way with IECAP.

Both Near...

Thus far in discussing the non-classroom segment of environmental education programs, primary attention has been given to community-action possibilities. But there is another kind of setting that every school ought also to include among its instructional resources--the outdoor laboratory or nature center. Admittedly, creating and maintaining such a teaching/learning resource does present some problems of cost, space, transportation, supervision, security, and so on. But enough schools in varying physical and financial settings have found ways to make at least promising beginnings to indicate the feasibility of such nature centers or land labs for a majority of secondary schools.

At first thought, a nature center or outdoor lab may call up visions of a bucolic setting with woods, streams, and rolling meadows. But for a majority of schools this is likely to be an unrealizable and discouraging (even undesirable) model, so we want to stress, first, that a nature lab can be an on-campus resource of a simple sort--say, the study of a decaying log left out beyond the edge of the parking lot or a soil profile pit or, perhaps, the creation of a bit of wildlife cover in a less frequented corner of the campus. And some school grounds permit the development of nature trails which can be as effective and persuasive educational tools as those laid out, out where we normally think "nature" must be.

The on-campus nature site does have much to commend it. For instance:

✓ It is easier to involve many students in planning and developing the lab;

✓ They can participate in its maintenance and supervision;

✓ Students can help staff the center and plan its use by other student and community groups;

✓ Being close at hand, the on-campus laboratory/nature center can be readily turned to for help on the spur of the moment as a need comes up and without some of the logistical problems normal to group movement off school grounds; and

✓ The location makes it possible for the site to become a center of all-school environmental concern and activity.

There is space here to mention only three of the many creative and successful programs based on on-campus facilities:

HUFFMAN HIGH SCHOOL OUTDOOR LAB Huffman High School, 950 Springville Road, Birmingham, Ala. 35215
Contact: Eugenia Corina

This program capitalizes on microscopic pond life, small animals, wildflowers, trees, and botanical specimens. It stresses conservation practices, ecological interrelationships, and appreciation.

TOTAL COMMUNITY SCIENCE LAB PROJECT Huntington Beach Union High School, 1902 17th, Huntington Beach, Calif. 92648
Contact: Richard Altimari, director of special programing

This campus center originally directed at examining local environmental issues has expanded its concerns and activities to include a marine station, coastline study, an archeology and fossil team, a community interpretive program, etc. Other schools will find this school's publication, Urban Wild, very helpful.

MURPHY HIGH SCHOOL NATURE TRAIL Murphy High School, Murphy, N.C. 28906
Contact: Geraldine Meadows

An old farm road was converted by students and faculty into a nature trail. Opening of drainage ditches, reconstructing ponds, and rebuilding bridges were undertaken. Identification, classification, and labelling of plants have been carried out, and an interpretive booklet has been produced to explain the trail.

...and Far

For all of what has just been said about the possibilities of the nearby environmental studies area or center, the values of the off-campus nature laboratory must not be minimized. (And it's not an either/or matter, for many schools are in a position to operate both types of sites.) The fact is that where adequate funding is available for personnel, transportation, materials, land purchases, and maintenance/development, the establishment of such an area is encouraged.

To be productive, an off-campus environmental studies area or center need not be sweeping in size or elaborate in the range of its facilities. But it must have sufficient community support, financially and otherwise, to permit its effective use. This does not mean or require affluence or over-indulgence, but it does mean an honest, serious, and continuing commitment on the part of the school community.

Choosing off-campus sites should be done with an eye to their accessibility, inherent natural diversity, and environmental points of interest. A site for an outdoor laboratory can be viewed in two ways: (1) as an especially representative area with emphasis on natural features and processes common to the region; or (2) as an area containing many uncommon natural features. Off-campus areas of significant environmental interest include locations such as:

- Marshes, swamps, bogs
- Ponds, lakes
- Rivers, creeks, streams
- Grasslands
- Woodlands
- Geological formations
- Ocean shores, estuaries
- Sand dunes

The natural features of a site will, of course, dictate its most effective uses as an environmental education tool for both group studies and for individual projects and research activities. Here are three examples of the many different ways high schoolers are being given opportunities to study portions of the natural environment of the region in which they live.

ANDROSCOGGIN RIVER STUDY Jay High School, Jay, Maine 04239
Contact: Karen Tilton, director

The Androscoggin River Study is an attempt by high school students to keep track of what was once rated among the country's 10 most polluted rivers. The river has been tested over its entire length, and the original study has been recorded on videotape. Interviews with industrial and civic leaders, related science studies, etc., helped in production of a 25-minute film documentary, A Profile of the Androscoggin River, which has been used extensively in local schools and with civic groups around the state. Students continue to monitor the river at three local sites each week.

CENTER FOR ENVIRONMENTAL EDUCATION Manchester, Conn., Public Schools
Contact: Juan Sanchez, Jr., director, 269 Oak Grove St., Manchester 06040

This center, which was initiated in 1968 with Title III funds, is now supported during the school year by the Manchester Board of Education, while a summer program is sponsored by the Lutz Museum of Manchester. Three other neighboring school districts also purchase the services of the center, which is located on 53 acres of town-owned land that includes a six-acre pond, a stream, several springs, a covered bridge, wooded trails, and a well-equipped classroom and administration building. At the center young people have a chance to participate in activities such as soil analysis, water testing, and making woodland population studies. The center staff also works in the schools, and it has prepared a variety of teaching aids for both teachers and students.

CHETEK CHAIN OF LAKES IMPACT STUDY Chetek High School, Chetek, Wis. 54728
Contact: James Dennis, director

A chain of six lakes with 127 miles of shoreline is a prime resort area in northwest Wisconsin, but like many other such regions had by 1972 begun to show serious evidence of eutrophication. Five years ago, a teacher, some other concerned adults, and a few students began a series of studies which, in addition to halting the deterioration of the lakes, has resulted in (1) the development of a 90-acre school forest by so-called "underachieving" students for school and community use; (2) the operation of a municipal sewage test laboratory run by the students; and (3) a weekly student-written column, "Eco Notes," in the local newspaper. Writes Dennis, "We are available to any organization for the exchange of materials and ideas."

No One Need Be Left Out

While environmental education programs directed at special audiences are not yet abundant, several innovative efforts are being made to reach student groups with special interests, backgrounds, or unusual circumstances. For example:

Handicapped Children

DISCOVERY THROUGH OUTDOOR EDUCATION Macomb County (Mich.) Intermediate School District, 4401 Garfield Rd., Mt. Clemens, Mich. 48043
Contact: Kristy Kaherl, director

Virtually all types of handicapped young people have taken part in the project since its inception in 1971, usually as members of their own special education classes and with their own classroom teachers. Among the many resources available are an overnight outdoor facility, with food, administrative, and instructional help in planning and operating

resident sessions for student groups. No student in a class group is excluded from any activity because of his particular handicap. High school students volunteer their services as counselors and aides. In addition to contributing to the personal and academic growth of specific youngsters, the project's goals include training special education teachers in utilizing outdoor education facilities, training college students as teacher aides for handicapped children, and involving parents in the program. The project has prepared a Discovery manual and a Discovery kit containing four filmstrips and two cassettes.

▶ *Pre-Delinquent Youths*

NATURE'S CLASSROOM Route 1, Box 396, Thonotosassa, Fla. 33592
Contact: Henry Verges, principal

With the support of LEAA funds and local monies, this center added a resident program for youngsters considered pre-delinquent. Coeducational groups of 30 students, ages nine to 15 and selected from throughout the county, arrive on a Monday morning and remain at camp until Friday afternoon. Morning hours are given over to academics, with outdoor education activities the rest of the day. A non-threatening, relaxed atmosphere prevails. Students participate in environmental projects such as reforestry, soil erosion control, and care of wildlife. One evening each week there is an off-campus activity.

▶ *Terminal Students*

KEENE ENVIRONMENTAL SCIENCE PROJECT Keene High School, Keene, N.H. 03431
Contact: Richard Tremblay, Keene HS science department

This project takes an innovative approach aimed specifically at students who do not intend to continue their education beyond high school. It stresses the role of the individual in society regarding the environment and the alternatives open to the citizen. The course takes a practical but scientific approach to reach an often largely ignored student audience.

▶ *Minority Involvement*

AMERICAN INDIAN CURRICULUM DEVELOPMENT PROGRAM 3315 A. Airport Rd., Building #35, Bismark, N.D. 58501
Contact: Mary Lou Aberle, director

This program is promoting the development of Plains Indian social studies materials relevant to the needs of both Indian and non-Indian students. The project began primarily as an effort to serve the schools of North Dakota, but interest and use of the materials that are being developed is spreading nationwide. Indian people traditionally lived in direct harmony with the environment. They revered and respected every aspect of nature. Therefore, the entire curriculum is oriented toward environmental education. (Information about available publications can be obtained by writing the program director.)

Keeping in Touch, Hands-on and Otherwise

One of the most effective ways of keeping in touch with promising developments in the field of environmental education is to take advantage of the constantly growing body of experience being gathered, organized, and reviewed at ERIC/SMEAC--that part of the national ERIC network that has been designated as the Science, Mathematics, Environmental Analysis Center. ERIC/SMEAC is located on the Ohio State University campus at 1200 Chambers Rd., Columbus, Ohio 43212.

■ The center produces instructional aids of various kinds by drawing on the materials it accumulates--bibliographies, activity booklets, research reviews, and so on. To get on the mailing list for materials from ERIC/SMEAC such as fact sheets, announcements of publications, etc., just make a photocopy of the application form on the final page of this CR, fill it out, and mail it.

Among the volumes that have been prepared by ERIC/SMEAC staff members are four that deal with the "current state of the art," so to speak, and which will be of especial value to teachers and administrators who are searching for promising ideas for strengthening or enriching their EE programs. (The four monographs can be ordered from ERIC/SMEAC at the address given above.)

- A Directory of Projects and Programs in Environmental Education compiled by John F. Disinger. Fourth edition, February 1976. $5.75

- Environmental Education 1975: A State-by-State Report compiled and edited by John F. Disinger and Mary Lynne Bowman. December 1975. $6.50

- Environmental Education Perspectives and Prospectives edited by Rudolph J.H. Schafer and John F. Disinger, 1975. (Part 1: Key Findings and Recommendations, $1.00; Part 2: Supporting Documentation, $2.00.)

- 100 Teaching Activities in Environmental Education by John H. Wheatley and Herbert L. Coon. 200 pp. ED 091 172, Part 1, $4.05; Part 2, $4.65; Part 3 $4.00.

These next nine references are only a small fraction of such materials to be found in ERIC files, but they are illustrative of the high-quality curriculum assistance available in increasing quantity. These publications can, of course, be ordered from their original sources, but ordering from ERIC may be the better route to take inasmuch as educational documents such as these tend not to be kept in print indefinitely. In each case, an ERIC document number has been listed, and prices for ERIC paper editions can be computed from the table at the end of the list. Send orders for these materials to: ERIC Document Reproduction Service, Box 190, Arlington, Va. 22210

- Outdoor Teaching on Your School Grounds: An Action Approach to Better Teaching by Norman Marsh, California State Department of Education, Sacramento, 1967. 46 pp. ED 042 537

- Outdoor Education in Michigan Schools by Julian Smith, Michigan State Department of Education, Lansing, 1970. 55 pp. ED 041-648

- Physical Education K-12 Environmental Education Guide. Project I-C-E, Wisconsin State Department of Public Instruction, Madison. 58 pp. ED 100 696

- Less Is More: Teacher's Guide--The Environment and Society. Bureau of Continuing Education, New York State Education Department, Albany, 1975. 55 pp. ED 108 883

- Environmental Education: A Source Book for Educators by Alice D. Linder, South Carolina State Department of Education, 1976. 151 pp. ED 123 095

- Living Within Our Means: Energy and Scarcity, Environmental Education Activities for Grades 7-12. New York State Education Department, Office of Instructional Services, Albany, 1974. 112 pp. ED 101959

- Environmental Learning Experiences: Biophysical, Junior High School, one of a series of junior-senior high school guides prepared by the Willoughby-Eastlake School District, Willoughby, Ohio, 1974. 97 pp. ED 099 229

- Project Q. U. E. S. T. (Quality Urban Environmental Studies Training), an interdisciplinary environmental studies curriculum for high school use. Brockton, Mass., Public Schools, 1974. 180 pp. ED 099240

. Environmental Education Resource Manual. Council for Environmental Education, Division of Curriculum, New Jersey Education Department, Trenton, 1974. 55 pp. ED 100 675

ERIC prices by number of pages: 1-25: $1.67; 26-50: $2.06; 51-75: $3.50; 76-100: $4.67; each additional 25 pages: $1.34

While it often seems that professional associations now present a serious environmental problem--overpopulation--there is a comparatively new group, The National Association for Environmental Education, which workers in environmental education should consider making use of as still another way of "keeping in touch."

> NAEE is an association of professional environmental educators, practitioners, and researchers who are committed to the development, promotion, and dissemination of environmental concepts, programs, strategies, and activities at all educational levels. Among services available to NAEE members are a monthly newsletter, the production of "Current Issues in EE," various curriculum materials, and reduced subscription rates to the Journal of Environmental Education. The Association also conducts an annual three-day conference/workshop (1977: 24-26 April, Estes Park, Colo., $48) which is open to all.
>
> For further information about NAEE and the conference write to the Association at Box 560931, Miami, Fla. 33156.

And the body of worthwhile reading and reference materials, which continues to grow, includes publications such as:

. Resource Recovery Education Program, a set of teaching materials for use in science, industrial arts, and social studies courses, which was developed by the National Center for Resource Recovery, a nonprofit research organization, in cooperation with the National Association of Secondary School Principals, and with the assistance of well-known subject-matter and curriculum specialists. The kit of materials is available from NASSP for $12.00. For further information, write Thomas Koerner, NASSP's director of publications, 1904 Association Drive, Reston, Va. 22091.

. Career Education in the Environment produced for the Office of Education by the Olympus Research Corporation and for sale at the U.S. Government Printing Office. The title applies most closely to Chapter 2, which concentrates on career possibilities, but the monograph also provides details for a 15-day and a semester course in environmental education which emphasize careers.

. The Journal of Environmental Education (4000 Albemarle St., NW., Suite 302, Washington, D.C. 20016) is devoted to research and development articles, project reports, and critical essays designed to advance the scientific study and practices of environmental communication and education.

. Environmental Education Guide K-12, State Department of Education, Richmond, Va., is an excellent example of the numerous curriculum materials developed under state leadership in many parts of our country in recent years.

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Curriculum Report is a bi-monthly publication of the National Association of Secondary School Principals, 1904 Association Dr., Reston, Va. 22091. Annual subscription rate of $2 is included in the dues of NASSP. Additional copies may be ordered: single copies, 50¢ each; 2-10 copies, 30¢ each; prices for larger quantities on request. *Payment must accompany orders of $10 or less.*

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